

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Chi-Ming Che et al.

Application No.: Not Yet Assigned

Confirmation No.:

Filed: Concurrently Herewith

Art Unit: N/A

For: SYSTEM AND METHOD FOR
PRODUCING LIGHT WITH ORGANIC
LIGHT-EMITTING DEVICES

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

Timing of Filing of the Information Disclosure Statement:

- ☒ This IDS is being filed before the First Office Action¹.
- ☐ This IDS is being filed after the issuance of the First Office Action but before the issuance of a Final Office Action².

¹ The IDS should, where possible, include a certification under 37 C.F.R. §1.97(e).

² The IDS *must* include *either* a certification under 37 C.F.R. §1.97(e) *or* the fee set forth in 37 C.F.R. §1.17(p).

- ☐ This IDS is being filed after the issuance of a Final Office Action but before the payment of the Final Fee³.

Certifications:

If checked, the undersigned makes the following statement(s):

- ☐ Statement under 37 CFR § 1.97(e):

Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement; or

No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

- ☐ Statement Under 37 C.F.R. § 1.704(d):

Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in §1.56(c) more than thirty days prior to the filing of this information disclosure statement.

Fee Required by 37 C.F.R. § 1.97(c)(2) or 1.97(d)(2):

- ☐ If checked, the fee of \$180.00 set forth in 37 C.F.R. §1.17(p) is attached.

³ The IDS *must* include *both* a certification under 37 C.F.R. §1.97(e) *and* the fee set forth in 37 C.F.R. §1.17(p).

Copies of Information:

In accordance with 37 C.F.R. §1.98(a), the following are enclosed:

- ☒ A legible copy⁴ of each document (or relevant portion thereof) is cited in the attached PTO/SB/08.
- ☒ With respect to any information which is not in English, a concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information, is attached. This concise explanation is provided by way of:
 - ☒ A translation of the relevant portions of the non-English language information⁵;
 - ☐ A statement explaining the relevant portions of the non-English language information;
 - ☐ A copy [and, where not in the English language, a translation] of at least the relevant portion(s)⁶ of the communication from a foreign patent office in a counterpart foreign application in which the information was cited; or
 - ☒ This information is contained in the specification of the present application.

⁴ A legible copy of the document is not required if (1) the information was previously cited by, or submitted to, the Office and considered by the Office in a prior U.S. application to which this application claims priority, provided that the prior application is properly identified in this IDS, and (2) the IDS submitted in the earlier application complies with 37 C.F.R. § 1.98(a) – (c). This exception does not apply to information cited in an International Application.

⁵ 37 C.F.R. §1.98(a)(3)(ii) *requires* that an English language translation be provided when a translation of the document, or portion thereof, “is within the possession, custody or control of, or is readily available to any individual designated in 37 C.F.R. § 1.56(c).”

⁶ The relevant portion is that portion which indicates the degree of relevance found by the foreign patent office. This may be an explanation of which portion of the of the reference is particularly relevant, to which claims it applies, or merely an “X”, “Y”, or “A” indication on a search report. MPEP §609 III A(3).

☐ In accordance with 37 C.F.R. 1.98(d), copies of the cited documents are not enclosed as they were provided in application Serial No. _____, filed _____, which the present application relies upon for an earlier effective filing date under 35 U.S.C. 120.

Materiality:

Whether or not the information and references disclosed in this Information Disclosure Statement is "material" pursuant to 37 CFR 1.56, this submission is not intended to constitute an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

In the event the actual fee is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 50-2215.

Dated: April 16, 2004

Respectfully submitted,

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Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	Not Yet Assigned
				Filing Date	Concurrently Herewith
				First Named Inventor	Chi-Ming Che
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	V9661.0068

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A01	US-6,515,298-B2	02-04-2003	Stephen R. Forrest, et al.	
	A02	US-6,310,360-B2	10-30-2001	Stephen R. Forrest, et al.	
	A03	US-6,048,630	04-11-2000	Paul Burrows, et al.	
	A04	US-2002/0197511-A1	12-26-2002	Brian D'Andrade, et al.	
	A05	US-2002/0182441-A1	12-05-2002	Sergey Lamansky, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	B01	WO-02/091814-A2	11-21-2002	THE TRUSTEES OF PRINCETON UNIVERSITY, et al.		
	B02	WO-02/091814-A3 International Search Report	11-21-2002	THE TRUSTEES OF PRINCETON UNIVERSITY, et al.		
	B03	WO-00/57676	09-28-2000	THE UNIVERSITY OF SOUTHERN CALIFORNIA, et al.		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²	
	C01	Adachi, et al., "High-efficiency organic electrophosphorescent devices with tris(2-phenylpyridine)iridium doped into electron-transporting materials," <i>Appl. Phys. Lett.</i> , 77(6):904-6 (2000)		
	C02	Adamovich, et al, "High efficiency single dopant white electrophosphorescent light emitting diodes," <i>New J. Chem.</i> , 26:1171-8 (2002)		
	C03	D'Andrade, et al, "Controlling Exciton Diffusion in Multilayer White Phosphorescent Organic Light Emitting Devices," <i>Adv. Mater.</i> , 14(2):147-51 (2002)		
	C04	Baldo, et al., "Highly efficient phosphorescent emission from organic electroluminescent devices," <i>Nature</i> , 395:151-4 (1998)		
	C05	Baldo, et al., "Very high-efficiency green organic light-emitting devices based on electrophosphorescence," <i>Appl. Phys. Lett.</i> , 75(1):4-6 (1999)		
	C06	Duggal, et al., "Organic light-emitting devices for illumination quality white light," <i>Appl. Phys. Lett.</i> , 80(19):3470-2 (2002)		
	C07	Ho, et al., "A blue photoluminescent [Zn(L)(CN ₂)](L = 2,2'-dipyridylamine) material with a supramolecular one-dimensional chain structure," <i>Chem. Commun.</i> , 2101-2 (1998)		
	C08	Huang, et al., "High-efficiency white organic light-emitting devices with dual doped structure," <i>Appl. Phys. Lett.</i> , 80(15):2782-4 (2002)		

Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
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				First Named Inventor	Chi-Ming Che
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	V9661.0068

C09	Kawamura, et al., "Energy transfer in polymer electrophosphorescent light-emitting devices with single and multiple doped luminescent layers," <i>J. Appl. Phys.</i> , 92(1):87-93 (2002)	
C10	Kido, et al., "Multilayer White Light-Emitting Organic Electroluminescent Device," <i>Science</i> , 267:1332-4 (1995)	
C11	Ko, et al., "Bright white organic light-emitting diode," <i>Appl. Phys. Lett.</i> , 79(25):4234-6 (2001)	
C12	Lamansky, et al., "Highly Phosphorescent Bis-Cyclometalated Iridium Complexes: Synthesis, Photophysical Characterization, and Use in Organic Light Emitting Diodes," <i>J. Am. Chem. Soc.</i> , 123(18):4304-12 (2001)	
C13	Lamansky, et al., "Molecularly doped polymer light emitting diodes utilizing phosphorescent Pt(II) and Ir(III) dopants," <i>Organic Electronics</i> , 2:53-62 (2001)	
C14	Lin, et al., "Structural, Photophysical, and Electrophosphorescent Properties of Platinum(II) Complexes Supported by Tetradentate N ₂ O ₂ Chelates," <i>Chem. Eur. J.</i> , 9(6):1264-72 (2003)	
C15	Lu, et al., "[([C [^] N [^] N])Pt(C≡C) _n R][HC [^] N [^] N = 6-aryl-2,2'-bipyridine, n = 1-4, R=aryl, SiMe ₃) as a new class of light-emitting materials and their applications in electrophosphorescent devices," <i>Chem. Commun.</i> , 206-7 (2002)	
C16	Ma, et al., "A blue electroluminescent molecular device from a tetranuclear zinc(II) compound [Zn ₄ O(AID) ₆] (AID = 7-azaindolate)," <i>Chem. Commun.</i> , 2491-2 (1998)	
C17	Ma, et al., "Light-emitting diode device from a luminescent organocopper(I) compound," <i>New J. Chem.</i> , 263-5 (1999)	
C18	Ma, et al., "Triplet luminescent dinuclear-gold(I) complex-based light-emitting diodes with low turn-on voltage," <i>74(10):1361-3 (1999)</i>	
C19	Thompson, et al., "White light emission from blends of blue-emitting organic molecules: A general route to the white organic light-emitting diode?," <i>Appl. Phys. Lett.</i> , 79(5):560-2 (2001)	
C20	Xie, et al., "Reduction of Self-Quenching Effect in Organic Electrophosphorescence Emitting Devices via the Use of Sterically Hindered Spacers in Phosphorescence Molecules," <i>Adv. Mater.</i> , 13(16):1245-8 (2001)	
C21	Ardasheva, et al., "Concentration and Aggregation Effects on Luminescence Properties of Pt(II) Complexes with N,N'-Bis(salicylidene)-1,3-propanediamine," <i>Russian State Pedagogical University</i> , May 5, 1997	
C22	Vlasov, et al., "New method of determining the activity coefficients of electrolytes from extraction data," <i>Rus. Jour. Phys. Chem.</i> , 65(11):1536 (1991)	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.